LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A purified protein having desaturase activity, and comprising an amino acid sequence selected from the group consisting of:

(a) an amino acid sequence as shown in SEQ. ID NO. 4;

(b) an amino acid sequence that differs from that specified in (a) by one or more conservative amino acid substitutions; and

(c) an amino acid sequences having at least 60% sequence identity to the sequences specified in (a) or (b).

2. (Original) An isolated nucleic acid molecule encoding a protein according to claim 1.

3. (Original) The isolated nucleic acid molecule of claim 2, comprising a sequence as shown in SEQ ID NO: 2.

4. (Original) A recombinant nucleic acid molecule, comprising a control sequence operably linked to the nucleic acid sequence of claim 2.

5. (Original) A cell transformed with the recombinant nucleic acid molecule of claim 4.

6. (Original) A cell transformed with the recombinant nucleic acid molecule of claim 4 and a nucleic acid molecule selected from the group consisting of:

(a) a nucleic acid molecule as shown in SEQ ID NO: 1; and

(b) a nucleic acid molecule that has 60% sequence identity to the nucleic acid molecule shown in (a).

7. (Original) The cell of claim 5, wherein the cell is a plant cell.

8. (Original) An isolated nucleic acid molecule that:

(a) hybridizes under low-stringency conditions with a nucleic acid probe, the probe comprising a sequence as shown in SEQ ID NO: 3, and fragments thereof; and

(b) encodes a protein having desaturase activity.

9. (Original) A desaturase encoded by the nucleic acid molecule of claim 8.

10. (Original) A recombinant nucleic acid molecule, comprising a promoter sequence operably linked to the nucleic acid molecule of claim 8.

11. (Original) A cell transformed with the recombinant nucleic acid molecule of claim 10.

12. and 13. (Cancelled herein)

14. (Original) An isolated nucleic acid molecule that:

(a) has at least 60% sequence identity with a nucleic acid sequence as shown in SEQ ID NO: 3; and

(b) encodes a protein having desaturase activity.

15. (Cancelled herein)

16. (Amended) A nucleic acid molecule identified by ~~the~~ a method ~~of claim 15~~ comprising:

(a) hybridizing the nucleic acid sequence to at least 10 contiguous nucleotides of a sequence as shown in SEQ ID NO: 3; and

(b) identifying the nucleic acid sequence as one that encodes a desaturase.

17. (Cancelled herein)

18. (Amended) A desaturase encoded by the nucleic acid molecule of claim ~~15~~16.

19. through 27. (Cancelled herein)